Amendments to the Claims

1-12. (Canceled)

13. (Previously Amended) The method of claim 62 wherein the mismatch repair gene is *PMS2*.

14. (Previously Amended) The method of claim 62 wherein the mismatch repair gene is human *PMS2*.

15-17. (Canceled)

18. (Previously Amended) The method of claim 14 wherein said mismatch repair gene comprises a truncation mutation.

19. (Previously Amended) The method of claim 14 wherein said mismatch repair gene comprises a truncation mutation at codon 134 as shown in SEQ ID NO:1.

C1 20. (Original) The method of claim 19 wherein the truncation mutation is a thymidine at nucleotide 424 of wild-type *PMS2* as shown in SEQ ID NO:1.

21-28. (Canceled)

29. (Previously Amended) The hypermutable, nonhuman, transgenic mammal of claim 60 comprising a protein which consists of the first 133 amino acids of human PMS2.

30-51. (Canceled)

52. (Previously Amended) The hypermutable, nonhuman, transgenic mammal of claim 61 wherein the mismatch repair gene is *PMS2*.

53. (Previously Amended) The hypermutable, nonhuman, transgenic mammal of claim 61 wherein the mismatch repair gene is human *PMS2*.

54-57. (Canceled)

58. (Previously Amended) The hypermutable, nonhuman, transgenic mammal of claim 61 wherein the dominant negative allele comprises a truncation mutation at codon 134 as shown in SEQ ID NO:1.

59. (Previously Amended) The hypermutable, nonhuman, transgenic mammal of claim 58 wherein the truncation mutation is a thymidine at nucleotide 424 of wild-type *PMS2* as shown in SEQ ID NO:1.

60. (Previously Added) A hypermutable, nonhuman, transgenic mammal wherein at least 50% of the cells of said mammal comprise a dominant negative allele of a mismatch repair gene.

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61. (Previously Added) A hypermutable, nonhuman, transgenic mammal produced by a process comprising introducing a polynucleotide comprising a sequence encoding a dominant negative allele of a mismatch repair gene into said mammal, whereby said mammal becomes hypermutable.

62. (Previously Added) A method of making a hypermutable, nonhuman, mammalian, fertilized egg comprising introducing into said mammalian fertilized egg a polynucleotide comprising a sequence encoding a dominant negative allele of a mismatch repair gene, whereby said mammalian fertilized egg becomes hypermutable.

63. (New) The hypermutable, nonhuman, transgenic mammal of claim 60 wherein the mammal is a mouse.

64. (New) The hypermutable, nonhuman, transgenic mammal of claim 61 wherein the mammal is a mouse.

65. (New) The hypermutable, nonhuman, transgenic mammal of claim 62 wherein the mammal is a mouse.

66. (New) The hypermutable, nonhuman, transgenic mammal of claim 60 wherein the mammal is a cow.

67. (New) The hypermutable, nonhuman, transgenic mammal of claim 61 wherein the mammal is a cow.

68. (New) The hypermutable, nonhuman, transgenic mammal of claim 62 wherein the mammal is a cow.